MS-AAI Program Preparedness and Resources

It's clear that artificial intelligence continues to grow ever more explosively into the future. Through the University of San Diego's MS in Applied Artificial Intelligence (AAI) program, you will be empowered to apply cutting-edge knowledge and technical skills to contribute to AI's advancement. From machine learning, natural language processing, AI agents, MLOps, to computer vision and more, USD's AAI courses take your learning to the next level. Learn about the latest real-world AI applications, along with the ethical considerations, moral responsibilities, and positive societal impact of these technologies. Upon concluding your courses–including a final capstone project–you'll be fully prepared to make an immediate impact in AI.

In preparation for your program to start in the MS-AAI degree, all students are encouraged to review the following resources. Students are not expected to complete all resources; these materials are intended to help you feel confident and reduce ramp-up time in the first semester.

Installation/Getting Started Resources

- Self-Assessment Test (Answer Key)
- Python (Anaconda) Installation and Navigating the Jupyter Ecosystem
- Python (An Introduction to Jupyter and Python)
- Getting Started with Python in VS Code (Optional)
- Python & Jupyter Notebook Installation Instructions
- Google Colab Tutorial for Beginners (Optional)

Programming and Software Resources

- IBM: Python Basics for Data Science
- Coursera: Python 3 Programming Specialization
- Python Data Science Handbook
- Python Standard Library
- LearnPython.org: Free Interactive Python Tutorial
- DataCamp.com: Free Interactive Intro to Python
- Slack Pro Channel ($20/semester); includes AI Teaching Assistant
- Git/GitHub (free account available!)
- Git and GitHub for Beginners Free Crash Course

Technical Resources and Requirements

- USD's Information Technology Services Hardware Recommendations
- Windows Operating System - 32 GB, Apple M-series (M1/M2/M3) or Intel i7/i9 (12th Gen+) and 512 GB or 1 TB Internal NVMe SSD. How-to-Check Guide Here.
- Microsoft Office is required (free with your USD account!)
- Speakers or headset – to listen and record multimedia.
- Webcam – for recording video.
- High-speed internet connection required (DSL or better).
- Google Chrome (Optimized for Colab and extension support) or Brave; Firefox also supported.

Additional Academic Resources

- Practical Statistics for Data Scientists
- Khan Academy: Calculus
- Optional textbook: Calculus eTextbook by Gilbert Strang
- 3Blue1Brown: Essence of Calculus
- Khan Academy: Statistics
- Math is Fun: Statistics (Optional)
- Khan Academy: Linear Algebra
- Elements of AI (Free online course)
- StatQuest: Machine Learning Essentials (YouTube Playlist)
- Google Machine Learning Basics (Lightweight)
- Paid Tutoring: Wyzant.com